702D MAIN SUPPORT BATTALION

STANDING OPERATING PROCEDURE (SOP)

HAZARDOUS WASTE MANAGEMENT PLAN (HWMP)

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 702D MAIN SUPPORT BATTALION
UNIT# 15093
APO AP 96224

EAID-SC-MT-CO 31 JUL 00

MEMORANDUM FOR RECORD

SUBJECT: Hazardous Waste Management Standard Operating Procedures

1. Purpose. To provide guidance and assign responsibilities for all units in the 702D Main Support Battalion on Hazardous Waste Management Standard Operating Procedures (SOP).

2. Scope. Hazardous Waste Management is the responsibility of every soldier assigned to the 702D MSB. It is part of everything that we do and it applies equally to field and garrison operations. This SOP applies to soldiers, as well as leaders of this Battalion. The goal is to establish an aggressive, well-trained, and focused preventative Hazardous Waste program. All personnel must familiarize themselves with the content of this SOP. Leaders must supervise, train and inspect their subordinates accordingly.

3. Objectives:

a. Each unit establish a Hazardous Waste Management Program

b. Maintain all POL products IAW all regulations with no spills

c. Maintain all Hazardous Waste IAW all regulations with no spills

d. Pass all internal and external evaluations and inspections

e. Do not store excessive POL or Hazardous Waste

f. This SOP provides guidelines and standards. All areas are subject to change; units must monitor regulations, directives and policy letters for additional requirements.

g. Perform Hazardous Waste Management in the field.

4. All units are required to develop a Hazardous Waste Management SOP

5. The Battalion Commander is the proponent for this SOP. Submit changes and recommendations in writing to the Battalion Maintenance Officer.

CATHERINE M. CUTLER
LTC, OD

COMMANDING

1. INTRODUCTION

a. Purpose. The purpose of this Hazardous Waste Management SOP is to provide specific procedures for systematic control of hazardous waste (H.W.) including minimization, generation, collection, storage, transportation, disposal, emergency spill response and training and to establish responsibilities in order to protect environment from contamination by POL and other chemical products.

b. Scope. This Hazardous Waste Management SOP shall apply to all members of the 702D MSB associated with the handling, containerization, storage, transportation, and disposal of POL, chemical defense items or other hazardous substances.

c. Reference

(1) AR 200-1
(2) USFK Hazardous Waste Management and Minimization Program Guidance
(3) EUSA Hazard Communication Program
(4) USFK Pam 1-201
(5) H.W./H.M. Turn-In Guidance (Protect Tomorrow's Environmental Today)
(6) Final government standard

2. RESPONSIBILITIES

a. Battalion Commander

(1) Appoint Battalion Environmental Coordinator.

(2) Establish a Command Inspection Program for H.W. Management using USFK Command Inspection Program (2ID Pam 1-201). Coordinate inspection for each company semi-annually.

b. Unit Commanders

(1) Brief all newly assigned personnel on this SOP and unit H.W. Management Plan. This briefing shall be documented in HWMP.

(2) Insure that all members of his/her unit understand and implement this SOP.

(3) Implement field environmental protection plan.

(4) Appoint unit environmental coordinator and monitor.

(5) Insure his/her unit is free of POL spill or potentials of accidental spill.

c. Battalion Environmental Coordinator

(1) Establish procedures for environmental protection in the field.

(2) Supervise the general operation of H.W. Management.

(3) Insure each unit understands and implements this SOP.

(4) Monitor all Battalion Environmental policies and procedures.

(5) Maintain a copy of appointing order for Unit environmental coordinators.

d. Unit Environmental Coordinator

(1) Supervise operation of H.W. Management in Motor Pool, NBC Room, POL Storage and other facilities that handle H.M./H.W.

(2) Develop and implement Unit SOP of H.W. Management and training programs for all personnel.

(3) Develop and Implement Unit Hazardous Waste Minimization Plan (HAZMIN) and make the best effort to minimize hazardous waste.

(4) Develop Unit Hazardous Waste Management Program (HWMP) and Spill Prevention Control & Countermeasures (SPCCP).

(5) Organize spill response team for Emergence Spills, structure of response team shall be filed in HWMP)

(6) Supervise Unit Environmental Monitor.

(7) Ensure unit personnel received Quarterly Environmental HAZMAT training.

(8) Ensure all HAZMAT training is posted on units training schedule.

e. Unit Environmental Monitor

(1) Enforce Unit Hazardous Waste/Management SOP's.

(2) Implement unit Hazardous Waste Minimization Plan. Make the best effort to minimize H.W.

(3) Be familiar with HWMP, SPCCP.

ENVIORNAMENTAL STANDARD OPERATION PROCEDURES (EPA-SOP) 702D MAIN SUPPORT BATTALION

(5) Control spill response team during spill.

(6) Stock adequate supplies for H.W. packaging.

(7) Properly package, label, store and identify H.W.

(8) Perform H.W. inventory using USFK form 216 (Annex B, Table 8&9) and package for disposal. The inventory will be maintained at all times.

(9) Perform weekly inspection of H.W. collection point using USFK Inspection Checklist (Annex B Table 10) and document in H.W. Management Plan.

(10) Maintain H.W. Accumulation Log using USFK Form 215 (Annex B Table 6&7).

(11) Anticipate the topping of H.W. container and coordinate with DPW for disposal. Record of disposal shall be filed in HWMP (Require 3 years keeping).

3. STORAGE OF HAZARDOUS WASTE (H.W.)

a. Hazardous Wastes shall be stored in compliance with Annex A of this SOP.

b. All H.W. storage areas will have a fire extinguisher, which is, inspected monthly.

c. All H.W. generating units must stock adequate spill control supplies for POL and H.W. spills (Annex A Table 3).

4. HAZARDOUS WASTE INVENTORY

a. H.W. inventory shall be performed using checklist (Annex B Tables 8&9) of this SOP.

5. INSPECTION

a. Weekly inspection of H.W. storage area will be scheduled and conducted by unit Environmental Coordinator or his designated representative using the USFK inspection checklist (Annex B Table 10). Each activity shall maintain H.W. site inspection records for a minimum of 3 years listing the types of problems found and corrective action were taken.

6. Training

a. All personnel who manage, use, handle, store, and dispose of hazardous waste will be trained IAW AR 200-1. Environmental Office, DPW will sponsor quarterly H.W. handling and Hazard Communication (HAZCOM) course for activities' personnel. Training certificate will be issued by Environmental Office, DPW. The certificate shall be filed in activities H.W. Management Plan.

b. Specific training requirements for all personnel will be identified by coordination with DPW

c. Environmental Office will distribute memorandum to attend the H.W.H.M. training.

d. Each unit is also required to document Hazardous Waste training to all personnel.

e. Each unit is required to conduct quarterly Hazardous Waste training to all personnel and post all training on unit training schedules.

7. Hazardous Waste Identification and Analysis.

a. Definition/Identification of H.W.

(1) Potential H.W. generators shall be familiar with definition of H.W. explained in Appendix C of USFK Hazardous Waste Management and Minimization Program (HWMMP). Appendix C of HWMMP identifies waste, which are subject to regulation as hazardous wastes.

b. Technical assistance in identifying H.W. can be provided by Environmental Engineer, DPW by submission of request through DPW, Camp Casey (Appendix E of HWMMP is an EUSA H.W. Analysis Plan).

8. Spill Prevention Control & Countermeasure Plan (SPCCP)

a. Purpose:

(1) The purpose of SPCCP is to identify the potential spill source of POL and HM/HW and establish countermeasures required preventing and controlling the accidental spills resulting from failure of storage or mishandling of POL distribution system. Each unit will establish a SPCCP to remove/prevent future potentials of HM/HW spill.

b. Reference

(1) AR-200.1

(2) USFK Hazardous Waste Management and Minimization Program (HWMMP).

c. Annual Hazardous Substance Inventory.

(1) Storage, handling and transfer facilities, which have reasonable possibilities of discharge of oil or hazardous substance, are subject to Annual Hazardous Substance Inventory. This inventory shall include information relating to activities' anticipated potential sources of hazardous substance spills. This inventory shall be prepared by using attached format (Annex B Table 11). IAW following guidance the inventory shall be submitted to Environmental Engineer, DPW by 15 Feb of each year.

Near Bldg S-1421, Fuel Tank Truck Parking Lot.

e. Nomenclature/Stock No.

(1) Nomenclature and stock number (NSN) shall be secured from original container. Hazardous substances to be considered for this inventory is itemized as follow:

Chemical Defense Items (Gal)

Petroleum Oil (Gal)	Synthetic Oil (Gal)
High-flash fuel (Gal)	Low flash fuel (Gal)
GAA Oil (Gal)	Anti-freeze (Gal)
Solvent (Gal)	

f. Storable capacity or average storing Q'ty/Unit. Storable capacity may be secured from nameplate of Equipment.

g. Spill Prevention/Protection Method

-. Dike for fuel tank
-. Shed for Hazardous Substance
-. Surrounding Berm for fuel tank parking lot
-. Tarpaulin Cover
-. Others

h. Finding of Inspection

(1) Describe reasonable potentials of spill/leakage on the basis of the following inspection checklist.

- The tank or equipment properly grounded.
- Pipelines.
- No damage (cracks/dents)
- No Gasket and Flange are loose.
- Fuel Hose in equipment.
- No cracks.
- No loose connections.
- Secondary Containment.
- No cracks and holes on floor and wall
- Drain valve closed.
- Oil/Water Separator
- Functional
- No oil overflow
- Waste Oil Tank
- Tanks are clean and dry on outside, no evidence of spills.
- Secondary containment is clean and dry.

- No signs of leakage exist (ex. smell, adjacent soil oily contaminated, Fuel exhausted unreasonably earlier than schedule).

i. Corrective Action

(1) Describe corrective action on the basis of the above inspection. Repair or replacement shall be initiated with coordination of facilities engineer. A detailed description of deficiencies, countermeasures, and corrective action may be attached to this inventory if needed.

j. Site Specific Spill Plan.

(1) Activities shall develop Site Specific Spill Plan reflecting unit specific site condition. This plan shall describe the physical facilities; potential spill area and spill prevention measure at specific site to permit the response personnel is familiar with the site condition prior to spill response. Activities shall develop the plan and schematic drawing referring to sample plan.

k. Scenario of Spill Accident.

(1) Activities may make the Scenario of Spill Accident against the areas that have high potential of spill accident to concretely analyze/familiarize with specific sites.

l. Activities shall give every effort to prevent and remove spill sources and potentials. In case of spill, respond and clean-up work shall be made in accordance with this SOP

9. Hazardous Waste Minimization Plan (HAZMIN)

a. Purpose

(1) Environmentally acceptable and economically justifiable hazardous waste minimization is the primary long-term goal of USFK HW management program. All activities must implement this plan and every efforts shall be given to minimize/eliminate the generation of H.W. to the maximum extent it is possible.

b. Reference:

(1) USFK Hazardous Waste Management and Minimization Program Guidance (HWMMP), Appendix D.

c. Implementation.

(1) Hazardous Waste Stream Survey (Annex C Table 13). First of all, activities must identify and maintain on file a detailed and accurate chemical/physical description for each category of H.W. they handle.

(2) The Hazardous Waste Stream Survey shall be updated annually. All activities should

(3) All activities shall develop HAZMIN Plan on the basis of H.W. Stream Survey Data.

d. Volume of H.W. Generated in each year.

(1) Put accurate quantity with unit. Unit is recommended in the above per specific items. Quantity shall be determined referring to USFK form 215, (H.W. and used POL accumulation

Log), form 216 (Hazardous Waste Inventory) and actual survey. Additionally, a determination must be made as to whether this H.W. was generated on a one-time basis or recurring operation.

e. Possible HAZMIN Opportunity for each HW type. Unit Environmental Coordinator and Monitor should attempt to identify possible HAZMIN opportunities and methods to reduce/eliminate H.W. generation. HAZMIN opportunities and methods are described in attached USFK Hazardous Waste Management and Minimization Plan (Refer Appendix D-2 and D-3).

f. Material Substitution

(1) H.W. can be minimized/eliminated by using a non-hazardous or less toxic material that can do the required job as well as the H.M. presently in use. i.e. Substitution non-halogenated solvent for halogenated ones, and substation nonleaded-based paints for lead-based ones.

g. Segregation of H.W.

(1) H.W. shall not be mixed with other type of H.W. All H.W. shall be segregated and accumulated using USFK Form 215, H.W. and used POL Accumulation Log. Precise recording and accumulation is essential for HAZMIN. Mixing used oil with waste solvent, mixing anti-freeze with used oil/solvent or other type of H.W. will result in failure to refine or reclaim H.W. and increase of disposal cost.

h. HAZMIN Plant on Camp Casey

(1) Environmental Office, DPW (Location: near Bldg T-400 adjacent to Story Barracks Area). The plant is equipped with Solvent Distiller, Anti-freeze recycle and Oil Filter Press.

i. Used Solvent and Antifreeze Elimination and Recovery Program.

(1) Used solvent and antifreeze will not be disposed, but re-used by recovery and distillation in the HAZMIN Plant. All activities will turn-in all used solvent and anti-freeze.

j. Recovery of solvent and anti-freeze.

(1) Units will precisely record the accumulation data (USFK Form 215) for used solvent and anti-freeze. They shall not be mixed with other type of H.W. such as used oil or other chemical to promote maximum efficiency of the equipment and purity of distilled solvent and recovered anti-freeze.

Annex A. Storage of Hazardous Waste

1. General.

a. Oil, fuels, petroleum products and H.M./H.W. shall be stored to prevent public health, fire, safety and environmental hazard. Proper storage includes the use of serviceable containers,

spill containment structures and equipment, access control, proper labeling and marking, run-on/run-off control and personal protective clothing/equipment.

2. Container

a. H.W. storage container will be made of or lined with a material that will not react with the material stored. Waste, except corrosives, will normally be placed in original container or 55 gallon metal drum.

b. Corrosives will be placed in original container, polyethylene drums, or overpack drums that are polyethylene lined.

c. Open-top drum will not be used to accumulate H.W.s containing more than 10% liquids.

d. Bulk solid H.W.s will be accumulated in open-top 55 gal drum.

e. Activities shall not store used/contaminated oil/fuels, H.W. or hazardous substances in underground storage tanks nor in any other underground container other than H/W storage facility.

3. Container Management

a. A container holding H.W./H.M.s will always be closed during storage except when it is necessary to add or remove the wastes. Containers will always be stored in a vertical position.

b. Containers of liquids will not be topped off. A minimum of 10% of the capacity of any container will be maintained free to permit expansion.

c. Grounding, Every flammable liquid container and ignitable H.W. will be grounded to prevent accidental ignition.

d. Aisle Space, Containers of H.M./H.W. will be stored with 3 feet of aisle space to allow the unobstructed movement of personnel, spill control equipment, and decontamination equipment to any area. Three feet of aisle space is considered a minimum width to conduct both routine and emergency operation.

4. Repackaging

a. If a container holding H.M./H.W. has severe rusting, apparent structural defects, leaking, or

5. Labeling and Marking

Annex A. Storage of Hazardous Waste

a. Hazardous Material.

(1) Container must be marked or tagged to identify the chemicals contained therein and warn workers of the hazards the chemicals presents. H.M. in containers which are not properly

identified will be labeled with either DD Form 2521 or 2522, DoD Hazardous Chemical Warning Labels as seen in DRMO H.W. Turn-in Guidance Page II-E1-1/2

b. Hazardous Waste.

(1) H.W. may have all of the above labels, markings or additional information. In addition, an EPA H.W. label (USFK Label 42) shall be affixed on a container when H.W. is initially placed in the container. The generator's name, address (Installation name, APO), proper H.W. shipping name and number, EPA Waste Number and accumulation start date will be recorded at this time. Refer: Enclosed H.W. Turn-In Guidance (Protect Tomorrow's Environment Today), page II-5.

6. Used Oils and Oil-Laden Materials,

a. The EPA H.W. Label (USFK Form 42) will not be affixed to these drums, although the bilingual (English/Korean) flammable label (SF 405 EK) will be applied to containers holding flammable fuels. H.W. generating unit will mark (stenciling, 3 inch block letter) on container holding flammable fuel IAW the color code as well as nomenclature as follow:

Nomenclature	Letter Color	Background Color
(1) "USED PETROLEUM OILS"	White	Yellow
(2) "USED SYNTHETIC OILS"	White	Green
(3) "USED HIGH-FLASH FUELS"	White	Red
(4) "USED LOW-FLASH FUELS"	White	Red

b. Starting Date and Topping Date shall be marked on container to indicate initial pouring date and toping date Marking shall be done as shown on Annex A Table 4.

7. Secondary Containment.

a. H.W. storage shall have a containment system, fully curbed concrete slab. The slab and curb should be free of gabs and crack and sufficient impervious to contain leak. Containment area drain valve shall always remain closed except when any accumulated precipitation is being released.

8. POL Spill response Material.

a. Emergency spill response material shall be stocked on-hand to contain spill and to protect

shall be stocked on-hand.

Annex A. Storage of Hazardous Waste

(1) Three 55 gal steel drums, open top type

(2) Six bags of vermiculite or dry sweep

(3) Four shovels

(4) 50 sand bags

b. A list of absorbent material and containers for H.W. storage and spill response is contained in Annex A Table 3.

9. Covering Structures

a. Outdoor storage of container of H.W. used oils and oil-laden materials will have some type of non-combustible overhead cover to protect the container from additional corrosion, and keep precipitation off the drums. Substitute measures such as the use of rubber/plastic drum covers and/or tarpaulins may be used.

b. Ventilation. Adequate ventilation, whether natural or forced, will be provided to prevent dangerous vapors, fumes or mists from accumulation.

10. Security

a. H.W. storage area will be secured to prevent the unauthorized and uncontrolled additions to the containers. Bilingual signs, reading "DANGER-HAZARDOUS WASTE STORAGE-UNAUTHORIZED-KEEP OUT" and "DANGER-NO SMOKING" in 3 inch block letter shall be posted at each potential entrance of H.W. storage and accumulation sites (Refer: Enclosed Figure in Annex A Table 4.

11. Segregation of H.M./H.W.

a. Incompatible H.M./H.W. shall be segregated to ensure that an accidental spill does not result in a fire, explosion or the generation of toxic vapors during their storage loading/unloading and transportation. H.M./H.W. will be grouped into the Hazard Class for storage and transportation, (Refer Segregation Table 5).

Annex A. Storage of Hazardous Waste

TABLE 1. USED OIL/FUEL CATEGORIES FOR USFK

Oil/Fuel	Nomenclature Flash- and Color Specification	Point "F	Color of Marking	Label	(Background)
Petroleum oils					

Gear/Lube oil	L-2105	NA	(White)	Yellow
Steam engine	L-17331	NA	"USED PETROLEUM OILS	
Internal combustion lube oil (admin)	L-46152	NA		
Diesel (9250)	L-9000	NA		
Hydraulic (2190TEP)	H-5606	NA		
Hydraulic (211)	H-17672B	NA		
Automotive crankcase oils (various weights)	L-2104	NA		
Vacuum and compressor ---	NA			
Transformer --- (non-PCB only)	NA			

Synthetic oils

Aviation turbine lube	L-7808H	NA	(White)	
Aircraft turbine lube	L-23699	NA	"USED SYNTHETIC OILS"	Green
Brake fluid	VV-B-O-080B	NA		
Hydraulic fluid	H-83282A	NA		
B.F.S. Brake fluid	B-46176	NA		

High-flash fuels (above 130 "F)

JP-5	T-5624K-JP-5	140	(White)	Flammable
Red				
F-76	F-16884-H	140	"USED HIGH-	
No. 4 oil	ASTM D 396	130	FLASH FUELS"	
No. 6 oil	ASTM D 396	140		

Low-flash fuels (below 130 "F)

JP-4	T-5624K-JP-4	100	(White)	Flammable
Red				
JP-8	T-83133A	127	"USED LOW-	
No. 2 oil	ASTM D 396	100	FLASH	
MoGas	G-3056D	45	FUELS"	

* Low-flash fuel containers shall be labeled with Standard Form 405EK. SF 405EK may be obtained from PPCK, Camp Market.

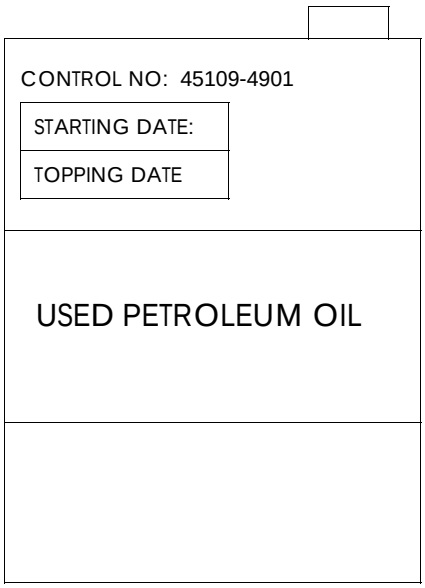
Annex A. Storage of Hazardous Waste

TABLE 2. COLOR CODE SCHEME & NSN FOR ENVIRONMENTAL DRUM

Drum Identification	Drum Type	Color of Letter	Background

Used Petroleum Oils	#1	White	Yellow
Used Synthetic Oils	#1	White	Green
Absorbent Material	#2	White	Factory coated dark color
Soda Ash	#2	White	Factory coated dark color
Oil-Contaminated Soils	#2/NA	White	Factory coated dark color
Oil-contaminated Sorbents	#2/NA	White	Factory coated dark color
Battery Acid	#3	White	Factory coated dark color
Anti-Freeze	#3	White	Factory coated dark color
Solvents	#1	White	Factory coated dark color
Used-Low Flash Fuel	#1	White	Factory coated dark color

CONTAINER MARKING



1. CONTAINER CONTROL NO.: LETTER SIZE - 2", COLOR - WHITE (REFER 2 ANNEX B-1, PARA, 1.C.)
2. STARTING DATE/TOPPING DATE: LETTER SIZE 3" COLOR - WHITE
3. NOMENCLATURE: LETTER SIZE 3", COLOR - REFER TO ANNEX A-2 PARA. 5.C.
4. BACKGROUND COLOR: 1/3 OF THE CONTAINER AT MIDDLE OF/AROUND THE CONTAINER WILL BE PAINTED IAW ABOVE COLOR SCHEME.

Annex A. Storage of Hazardous Waste

TABLE 3. INFORMATION OF ABSORBANT MAT'L AND CONTAINERS

Stock Number	Product description
6850-01-W66-3312	T-156 Pads 17"x19"x3/8" 100 Pads/Bale
7930-01-W66-5011	T-151 Pads 17"x19"x3/16" 200 Pads/Bale
7930-01-W66-4876	P-110 Pads 11"x13" 50 Pads/Bag 4 Bag/Case
7930-00-W84-7964	T-210 Particulate 25 Lbs/Bag 1 Bag/Bale
6850-01-W66-5334	T-280 sorbent Booms 5" diax x 10' 6.5 Lbs/Double Booms/Bale 4 Double Booms/Bale
7930-00-269-1272	VERMICULITE 50 Lbs/Bag 1 Bag/Bale
7930-01-W66-6532	T-240 Pillow Type
8110-00-082-2623	Drum, Steel, 77 Gal, Open Head Type
8110-00-880-7074	Drum, Steel, 58 Gal, Open Head Type
8110-00-030-7780	Drum, Steel, 55 Gal, Open Head Type
8110-00-753-4643	Drum, Steel, 19 Gal, Open Head Type

8110-00-254-5716 Drum, Steel, 12 Gal, Open Head Type

8110-01-150-0677 Drum, Fiber, 55 Gal, Open Head Type

Annex A. Storage of Hazardous Waste

TABLE 4. SIGNS

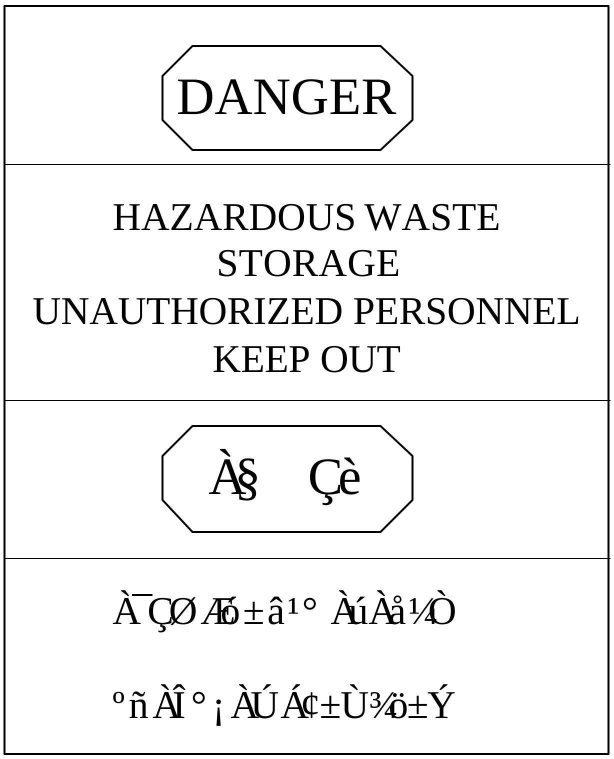


FIGURE G-3. HW SITE DANGER SIGNS.

3.7. Danger signs

a. Use. Use a danger sign only when an immediate hazard exists. There will be no variations in the type or design of signs posted to warm of specific dangers. All personnel will be instructed that danger signs indicate immediate danger and that special precautions are necessary.

b. Design. Paints with phosphorescent or reflective content may be used when safety considerations justify a need for assuring visibility of signs in darkened areas or at night. Design danger signs as follows and per figure 3-1:

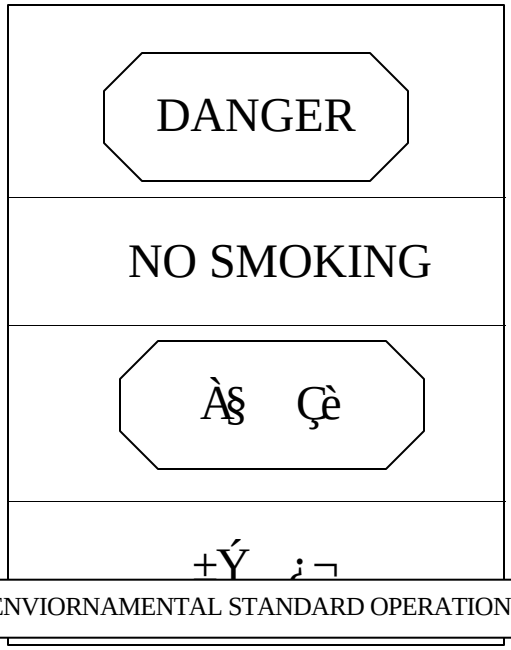
(1) Danger signs will have a white background. The word “DANGER” will appear in white letters on a red oval. The red oval will be placed inside a black rectangular panel. (A white line separating the outside edges of the red oval from the adjacent edge of the black panel may be used.

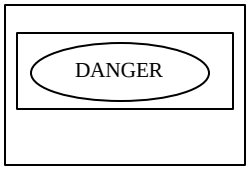
(2)The blace rectangular panel will be placed at the top of the sign.

(3) The sign wording will be in clack letters on the white background.

(4) The size of the red oval containing the word “DANGER” and the size of the letters used for the word DANGER will vary with the outside dimensions of the sign.

RED





BLACK WHITE

Figure 3-1. Example of a danger sign

SOURCE: AR 385-30, 15 September 1983. Safety color Code Markings and sings.

FIGURE G-4. NO SMOKING SIGN

Annex A. Storage of Hazardous Waste

TABLE 5. SEGREGATION TABLE OR HAZARDOUS MATERIALS

Class or division		Notes	1.1, 1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3 gas zone A	2.3 gas other than zone A	3	4.1	4.2	4.3	5.1	5.2	6.1 liqu PGI zo A
Explosives	1.1 and 1.2	A	•	•	•	•	•	X	X	X	X	X	X	X	X	X	X	X
Explosives	1.3		•	•	•	•	•	X		X	X	X		X	X	X	X	X
Explosives	1.4		•	•	•	•	•	O		O	O	O		O				O
Very insensitive explosives	1.5		•	•	•	•	•	X	X	X	X	X	X	X	X	X	X	X
Extremely insensitive explosives	1.6		•	•	•	•	•											
Flammable gases	2.1		X	X	O	X				X	O							O
Non-toxic, non-flammable gases	2.2		X			X												
Poisonous gas Zone A	2.3		X	X	O	X		X				X	X	X	X	X	X	
Poisonous gas other than Zone A	2.3		X	X	O	X		O				O	O	O	O	O	O	
Flammable liquids	3		X	X	O	X				X	O					O		X
Flammable solids	4.1		X			X				X	O							X
Spontaneously combustible materials	4.2		X	X	O	X				X	O							X
Dangerous when wet materials	4.3		X	X		X				X	O							X
Oxidizers	5.1	A	X	X		X				X	O							X
Organic peroxides	5.2		X	X		X				X	O							X
Poisonous liquids PGI	.1		X	X	O	X		O				X	X	X	X	X	X	

Zone A																		
Radioactive materials	7		X			X	O											
Corrosive liquids	8		X	X	O	X		O		X	O		O	X	O	O	O	X

Instructions for using the segregation table for hazardous materials are as follows:

(1) The absence of any hazard class or division or a blank space in the Table indicates that no restrictions apply.

(2) The letter "X" in the Table indicates that these materials may not be loaded, transported, or stored together in the same transport vehicle or storage facility during the course of transportation.

(3) The letter "O" in the Table indicates that these materials may not be loaded, transported, or stored together in the same transport vehicle or storage facility, during the course of transportation, unless separated by a distance of 1.2 m (4 feet) in all directions and packages maintained such as on pallets, at a minimum height of 10 cm off the floor of the transport vehicle, or separated in a manner that, in the event of leakage from packages under conditions normally incident to transportation, commingling of hazardous materials would not occur. Notwithstanding the methods of separation employed. Class 8 (corrosive) liquid materials may not be loaded above Class 4 (flammable solid) materials or Class 5 (oxidizing) materials.

(4) The "*" in the Table indicates that segregation among different Class 1 (explosive) materials is governed

(5) The note "A" in the second column of the Table means that, notwithstanding the requirements of the letter "X", ammonium nitrate fertilizer may be loaded or stored with Division 1.1 (Class A explosive) or Division 1.5 (blasting agents) materials.

Annex B. Hazardous Waste Inventory

1. Identification

a. USFK Form 215 Hazardous Waste and Used Oil Accumulation Log.

(1) H.W. generator will establish a record of all waste placed into each H.W. and used oil drum by using a separate copy of USFK Form 215, Hazardous Waste and Used POL Log (Table 6&7). Activities shall document and file a separate form for each drum accumulated at their facility for at least 3 years.

b. USFK Form 216, Hazardous Waste Inventory.

(1) H.W. generator shall maintain an up-to-date inventory of H.W. and used oil on the USFK Form 216, H.W. Inventory (Table 8&9). Copies of all such forms shall be maintained at least 3 years beyond waste removal dates. Separate copy of all H.W. inventory forms used during a given calendar year shall be sent to the Environmental Engineer, DPW by NLT 15 February of the following year. Recommend USFK for 216 be separately maintained for largely generated H.W. such as synthetic oil, petroleum oil and POL laden material.

c. Container Control Number.

(1) H.W. generating activities will mark on each container with a control number, which will also be recorded on USFK Form 215 and 216. The control number shall be corresponded with the date that accumulation is begun in the container. Control number will begin with the Julian date followed by activities' control letter and number (i.e. 4109-S001). The number will not be repeated within a fiscal year (Refer Annex A-5).

d. Material Safety Data Sheets(MSDS).

(1) MSDS contains important information regarding composition, hazard potential, and handling and disposal requirement for the material. Activities handling H.M./H.W. must maintain an up-to date MSDS for each H.M./H.W. and the MSDSs' must be available to all workers. The MSDS must be filed for whole lifetime of the H.M./H.W. MSDS is supplied with material shipment/supply. Activities can obtain the Safety Office and Environmental Engineer, DPW.

e. Limitation of H.W. Storage.

(1) H.W. generating activity shall accumulate no more than:

-55 gal of Oil-Laden material, except in the event of a spill
-55 gal of each type of H.W.

Annex B. Hazardous Waste Inventory

TABLE 6. USFK F0RM 215

HAZARDOUS WASTE AND USED POL ACCUMULATION LOG

HAZARDOUS WASTE AND USED POL ACCUMULATION LOG			
CHECK THE APPROPRIATE BLOCK: ☐ HAZARDOUS WASTE ACCUMULATION LOG ☐ USED POL ACCUMULATION LOG			
HAZARDOUS WASTE NOMENCLATURE, NSN, AND EPA ID NUMBER			
USED POL NOMENCLATURE		DATE HW OR USED POL ACCUMULATION BEGAN	
DATE	QUANTITY ADDED	NSN *(IF USED POL)*	INITIALS

DATE HW OR POL ACCUMULATION COMPLETED	DATE HW TRANSFERRED TO DRMO *(OR USED POL REMOVED BY CONTRACTOR)*
INSTALLATION	UNIT
POINT OF CONTACT	PHONE NUMBER

Annex B. Hazardous Waste Inventory

TABLE 7. USFK FORM 215 EXAMPLE

HAZARDOUS WASTE AND USED POL ACCUMULATION LOG

Container #1011-S001

HAZARDOUS WASTE AND USED POL ACCUMULATION LOG			
CHECK THE APPROPRIATE BLOCK: ☐ HAZARDOUS WASTE ACCUMULATION LOG ☒ USED POL ACCUMULATION LOG			
HAZARDOUS WASTE NOMENCLATURE, NSN, AND EPA ID NUMBER			
USED POL NOMENCLATURE: USED PETROLEUM OILS		DATE HW OR USED POL ACCUMULATION BEGAN: 17 MAY 1991	
DATE	QUANTITY ADDED	NSN *(IF USED POL)*	INITIALS
17 MAY 1991	10 GAL	OE-30 9150-00-188-9858	SIGN

18 MAY 9119	3 GAL	DIESEL 9140-00-079-5805	SIGN
18 MAY 1991	1 GAL	9150-00-149-5432 HYDRAULIC OIL (2190 TEP)	SIGN
20 MAY 1991	6 GAL	ENG OIL 9150-01-152-4118	SIGN
21 MAY 1991	1 GAL	PEN OIL 9150-00-261-7899	SIGN

DATE HW OR POL ACCUMULATION COMPLETED	DATE HW TRANSFERRED TO DRMO *(OR USED POL REMOVED BY CONTRACTOR)*
INSTALLATION Camp Howze	UNIT A Co, 44th Engr Bn

POINT OF CONTACT SGT SMITH	PHONE NUMBER 734-2482

USFK FORM 215
1 FET 91

Annex B. Hazardous Waste Inventory

TABLE 8. USFK FORM 216

HAZARDOUS WASTE INVENTORY				DATE	
				FISCAL YEAR	
ACTIVITY/INSTALLATION				BUILDING NUMBER	
CONTAINER DOCUMENT OR OTHER ID NUMBER	VOLUME (GAL)	WASTE NOMENCLATURE OR PROPER SHIPPING NAME	EPA ID NUMBER	DATE REC'D (ACCUMULATION START DATE)	DA FILI

USFK FORM 216
1 FET 91

Annex B. Hazardous Waste Inventory

TABLE 9. USFK FORM 216 EXAMPLE

HAZARDOUS WASTE INVENTORY				DATE FISCAL YEAR 9	
ACTIVITY/INSTALLATION A CO, 44TH ENGR BN, Camp Howze, KOREA				BUILDING NUMBER S-4	
CONTAINER DOCUMENT OR OTHER ID NUMBER	VOLUME (GAL)	WASTE NOMENCLATURE OR PROPER SHIPPING NAME	EPA ID NUMBER	DATE REC'D (ACCUMULATION START DATE)	DA FILI
4011-S001	55	Used Petroleum Oils	N/A	11 Jan 94	15 Fe
4015-S002	55	Used Synthetic Oils	N/A	15 Jan 94	22 Fe
4030-S003	55	Oily Laden material (Used absorbent)	N/A	15 Jan 94	25 Fe

USFK FORM 216
1 FET 91

Annex B. Hazardous Waste Inventory

TABLE 10. INSPECTION CHECKLIST

U.S FORCES, KOREA
HAZARDOUS WASTE 'SATELLITE' GENERATION POINT INSPECTION CHECKLIST

Installation/Activity/Building No.

	YES	NO
Containers closed (check bungs/funnels)		
Containers in good condition		
Containers handled properly (look for drum dolly, bung wrench)		
Waste properly segregated		
HW Containers have EPA HW labels		
HW labels completed properly and affixed on containers		
No more than one container of any waste type		
No more than one 55-gal drum of any HW		
No more 1 qt of any acutely HW		
Used oil tank not greater than 660-gal		
Used oil containers properly marked		
Oily materials container marked		
Ignitable/flammable drums grounded		
Fill date stenciled or tagged on each container		
DD Forms 1348-1 AND 1387-2 prepared for each HW drum		
Waste properly transported to consolidation facility or DRMO within 3 working days after full (except used oil tanks)		
Facility secured from unauthorized entry		

Fire extinguisher present

Annex B. Hazardous Waste Inventory

TABLE 10. INSPECTION CHECKLIST-CONT

Fire extinguisher inspected monthly

Spill control supplies on hand (vermiculite)

Housekeeping is adequate (no evidence of spillage, trash policed, water puddles mopped)

Means of summoning help in an emergency

3 ft of aisle space

Wastes stored on intact, nonporous surface

Storage area is bermed

Wastes protected from the elements

Bilingual "HAZARDOUS WASTE STORAGE UNAUTHORIZED PERSONNEL KEEP OUT" signs posted

Bilingual "NO SMOKING" signs posted

Site located at least 50 ft inside installation boundaries

HW profile sheet on hand for each HW

USFK Form 215 maintained for each container; filed for 3 years

HW inventory forms (USFK Form 216) up-to-date

MSDSs available for each HM

Weekly inspections scheduled/conducted

Inspection records held for at least 3 years

DD Form 1384 manifest used, filed for 3 years if DEH/DPW consolidation facility is located on another post or if HWs shipped to DRMO

Transporters officer has current certification

Spill contingency plan is on-hand

Annex B. Hazardous Waste Inventory

TABLE 10. INSPECTION CHECKLIST-CONT

Facility is listed in area HWM, SPCC, and ISC plans

USFK technical guidance/area HWM plan on hand

HW training SOP developed, signed by workers

Employee training adequate

Training records maintained at facility

Annex B. Hazardous Waste Inventory

TABLE 11 ANNUAL HAZARDOUS SUSBSTANCE INVENTORY

ANNUAL HAZARDOUS SUBSTANCE INVENTORY (1 Jan 20___ thru 31 Dec 20___)

Unit: _____
Date: _____

POC: _____ Tel: _____

Location & Actual Use	Hazardous Substance Nomenclature/Stock No.	Storable Capacity or Average Storing Qty/Unit	Spill Prevention/Protection Method	finding of Inspection

Annex B. Hazardous Waste Inventory

TABLE 11 ANNUAL HAZARDOUS SUSBSTANCE INVENTORY EXAMPLE

ANNUAL HAZARDOUS SUBSTANCE INVENTORY (1 Jan 20___ thru 31 Dec 20___)

Unit: _____ Date: _____

POC: _____ Tel: _____

Location & Actual Use	Hazardous Substance Nomenclature/Stock No.	Storable Capacity or Average Storing Qty/Unit	Spill Prevention/Protection Method	finding of Inspection	Corrective Action
Bldg T-116 (Barracks) A/G Fuel Tank	Diesel 9140-01-790-5804	1,100 Gal	Dike	Wall of Dike is Broken	To be repaired By R&U or Work Order
Bldg T-1048 (Motor Pool) A/G Fuel Tank	Diesel 9140-01-790-5804	1,000 Gal	Dike	None	
POL Storage Yard	Diesel 9140-01-790-5804	20 units of 5,000 Hemmet	Sandbag Berm Around the Yard	Concrete paving and berming with oil/water separation system are needed.	1. Temporary sandbag berm is made. 2. Env Ofc programmed Conc, paving, berming and oil/water separator construction. (Work order #RS04216-4J)

ANNEX C FUEL SPILL CONTAINMENT AND CLEANUP

1. Spilled fuel/POL is rapidly absorbed into the soil in the immediate area of the spill and, if not quickly contained and cleaned up, will eventually contaminate any streams or aquifers that have their watershed in the spill area. Any well s and water intakes "downstream" of the spill

can then no longer be used to supply drinking water.

2. When a spill occurs, the immediate response by the unit is critical! Actions to be taken by the unit are as follows:

a. STOP the spill. Close off the leak and stop any further spillage. For leaking tanks on overturned vehicles, right the vehicle as soon as possible. Use towels, polyethylene sheet or cloth covered in plastic to plug the leak in the meantime. For a valve popped open, close or replace the valve or use a makeshift stopper to prevent further loss.

b. CONTAIN the spill. Prevent the spilled fuel from spreading and contaminating a larger area. Try to capture as much of the spill as possible, limit the extent of the spread of the spilled material, and minimize the amount of soil and other materials contaminated by the spill. This can be accomplished by damming the spill or catching the spilled material in drums, containers or a field expedient containment collection point (low sand-bag walls with a lining of several layers of polyethylene plastic sheets).

c. REPORT the spill. Notify your unit chain-of-command and have the closest DPW contacted. Include unit, telephone number (or means of contacting the unit), location of spill (grid coordinates), quantity of fuel spilled, time of spill, whether tank is still leaking, and location of nearest unit TOC of Admin/Log Ctr that could serve as a linkup point. Also inform DPW if the spill has been contain d and if additional spill absorbent materials are needed.

d. MINIMIZE the spill. Of there is a lot of free standing liquid, try to pump the POL into drums or containers. Soak up very shallow freestanding liquid and areas covered with an oil sheen by using oil/water absorbent (a.k.a. dry sweep)and oil absorbent pads/rolls/pillows. "Dry sweep" works best on handstand surfaces while the 3M pads, rolls or pillows are best for bare ground, grass, snow, ice areas or even on water surfaces.

e. CLEANUP the spill. Collect contaminated material soil, absorbent, and pads - into drums or field expedient collection point. When precipitation is likely be sure to provide a cover for any collection points. If the total amount of contaminated material can be collected into six or less lock ring 55 gallon drums, load the drums onto a unit vehicle and transport back to Camp Casey. (For larger quantities of contaminated material, contact your supporting engineer unit for assistance in digging up and hauling off contaminated soil. The DPW spill cleanup contractor may also be needed - DPW environmental personnel will make this call.). The Environmental Office will set up a time to accept delivery of the drums at the consolidated hazardous waste collection Point.

ANNEX C FUEL SPILL CONTAINMENT AND CLEANUP

Unit Actions

1. Spill containment and cleanup is a unit responsibility! Units can improve spill preparedness by reviewing spill procedures and ensuring that immediate actions are known and understood by all unit leaders. Units should carry with them a "basic load" of spill response and clean up materials and have a larger supply readily accessible in the rear. Polyethylene plastic sheet and sandbags are used to make containment berms and collection points, so these materials should be distributed with different elements of the unit. Other materials (i.e. absorbents) are bulky and may have to be located in unit trains.

2. Small spills, less than 100 gallons of fuel or less than six 55 gallon drums of contaminated material, should be completely handled and cleaned up by the responsible unit, including removal of contaminated materials. Larger spills should still be stopped and contained by the responsible unit but the unit may need to be reinforced with engineer equipment or by the DPW spill cleanup contractor. The unit's immediate response following a large spill is even more critical; how quickly the unit acts to stop and contain the spill will largely determine the amount of contamination and the costs of cleanup.

DPW Actions

1. When DPW is contacted following a spill, DPW personnel will attempt to confirm that the unit has stopped and is containing the spill. If the unit doesn't have spill absorbent materials on-hand or needs additional materials, DPW will make them available. The unit should arrange for transportation of materials (DPW non-tactical vehicles often cannot negotiate reads in the areas where spills have taken place).

2. DPW environmental personnel will visit the site to check on the spill containment and cleanup first-hand and will offer recommendations on further actions. These personnel will also estimate the extent of the contaminated area and determine if the unit can recover contaminated material or if the DPW's contractor should be called in. If the total amount of contaminated material exceeds about two cubic yards, engineer equipment and dump trucks from the supporting engineer unit should pick up the material.

**If engineer equipment is not immediately available, the DPW contractor will pick up material on site. Action by the DPW contractor will normally be limited to picking up POL contaminated materials, excavating POL contaminated soil and replacing excavated soil with clean soil. **Removal of contaminated soil can be accomplished at a fraction of the contract cost by using engineer equipment and dump truck. This equipment can be used in precisely the same manner as the contractor's equipment, to dig up and haul off the contaminated soil then haul back in and spread clean soil.

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ANNEX C FUEL SPILL CONTAINMENT AND CLEANUP

3. The DPW Environmental Office will also coordinate with local county and city environmental officials. Unit or maneuver damage cell personnel should not agree to environmental cleanup actions requested by local officials unless the DPW Environmental Officer has been consulted.

4. For extremely large or extensive spills, DPW will reinforce unit efforts with additional manpower, materials and equipment if needed.

ANNEX C FUEL SPILL CONTAINMENT AND CLEANUP

TABLE 13 HAZARDOUS WASTE STREAM SURVEY

HAZARDOUS WASTE STREAM SURVEY DATA

(Period of Survey: 1 Jan 20__ thru 31 Dec 20__)

Unit_____ Date_____

LOCATION	ACTIVITIES	HAZARDOUS WASTE	ANNUAL Q'TY GENERATED	UNIT

POC. Name_____ Tel_____

ANNEX C FUEL SPILL CONTAINMENT AND CLEANUP

TABLE 14 HAZARDOUS WASTE STREAM SURVEY EXAMPLE

HAZARDOUS WASTE STREAM SURVEY DATA

(Period of Survey: 1 Jan 20__ thru 31 Dec 20__)

Unit_____ Date_____

LOCATION	ACTIVITIES	HAZARDOUS WASTE	ANNUAL Q'TY GENERATED	UNIT
Bldg T-0094	NBC Room	M256A1 Detector Kit	120	EA
Bldg T-0094	NBC Room	DS-2	40	GAL
Bldg T-0095	Motor Pool	Solvent	120	GAL
Bldg T-0095	Motor Pool	Anti-freeze	140	GAL
Bldg T-0095	Motor Pool	Synthetic Oil	4,200	GAL
Bldg T-1019	Paint shop	Paint, Wasted	60	GAL
Bldg T-1020	Photo Process	Hypo Solution	42	GAL

POC. Name_____ Tel_____